

# EUROPEAN PATENT OFFICE

## Patent Abstracts of Japan

**PUBLICATION NUMBER** : 02054981  
**PUBLICATION DATE** : 23-02-90

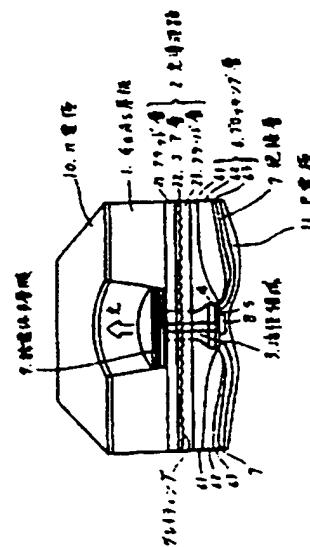
**APPLICATION DATE** : 20-08-88  
**APPLICATION NUMBER** : 63206761

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INVENTOR : FURUYA AKIRA;

INT.CL. : H01S 3/18

**TITLE : SURFACE-EMISSION LASER AND  
LASER ARRAY**



**ABSTRACT :** PURPOSE: To control emission of an oscillation wavelength accurately and with improved reproducibility by forming secondary or higher gratings at a part where light irradiated from an activation area hits against a light waveguide path.

**CONSTITUTION:** A light waveguide path 2 and an activation area 3 which are parallel to the surface of a GaAs substrate 1 are provided on the GaAs substrate 1 and light is radiated in a direction which is vertical to the surface of the substrate 1 from the activation area 3. The light waveguide path 2 consists of clad layers 21 and 23 and a core layer 22 and a secondary grating is formed on the interface surface of the core layer 22 and the clad layer 23. The secondary grating joins with a guide mode in the direction of waveguide and a leak mode in a direction vertical to the direction of waveguide and can control emission of oscillation wavelength accurately and with improved reproducibility.

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